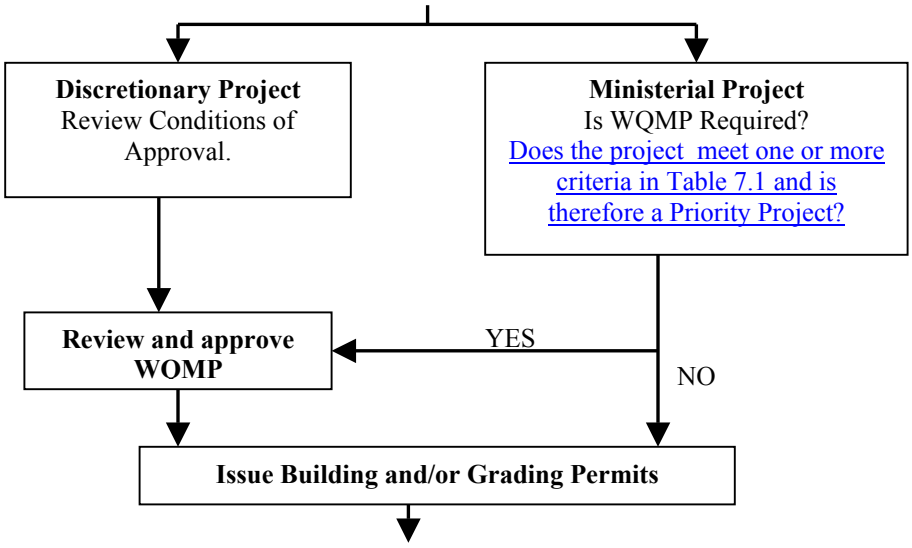
ITEM 17

Orange County Municipal Storm Water Permittees' Drainage Area Management Plan (DAMP) Chapter 7 and Model Water Quality Management Plan (WQMP)

Changes Proposed by Staff to the July 22, 2003 Revised Draft Documents

<table>
<tr><th>Page Number</th><th>Changes</th></tr>
<tr><td>DAMP Page 7-13</td><td>Most of the Permittees' General Plans contain existing provisions in these various elements that protect water quality and the environment. Therefore, adapting a General Plan to incorporate water quality protection/stormwater quality management principles may be determined to be unnecessary, or it may be determined to be as simple as modifying existing text so that it specifically includes stormwater quality and protection policies and objectives, as outlined in the Permits. Additional policies, goals, or objectives that stress the importance of stormwater quality control or to implement certain types of stormwater management programs should be incorporated ~~may be beneficial~~ in the General Plans of cities ~~expecting major growth and have sensitive water resources within their jurisdictions~~. The need for and the extent of revisions to the General Plan will need to be coordinated with each Permittee's legal counsel.</td></tr>
<tr><td>DAMP Page 7-23</td><td>Modify Project WQMP requirements by imposing additional BMP requirements for new development ~~and significant redevelopment~~ projects that fall under "Priority Project" categories and significant redevelopment projects.</td></tr>
<tr><td>DAMP Page 7-25</td><td>A project is a priority project if it meets any of the following criteria:
Table 7-1
Priority Projects Categories
<table><tr><td>1. All significant re-development projects, where significant re-development is defined as the addition of 5,000 or more square feet of impervious surface on an already developed site.</td></tr><tr><td>2~~1~~. Residential development of 10 units or more</td></tr><tr><td>3~~2~~. Commercial and industrial development greater than 100,000 square feet including parking area</td></tr><tr><td>4~~3~~. Automotive repair shops (SIC codes 5013, 5014, 5541, 7532-7534, and 7536-7539)</td></tr><tr><td>54. Restaurants where the land area of development is 5,000 square feet or more including parking area (SIC code 5812)</td></tr><tr><td>6~~5~~. For San Diego Region - Hillside development greater than 5,000 square feet
For Santa Ana Region - Hillside development on 10,000 square feet or more, which are located on Areas with known erosive soil conditions or where natural slope is twenty-five percent or more</td></tr><tr><td>7~~6~~. Impervious surface of 2,500 square feet or more located within, directly adjacent to (within 200 feet), or discharging directly to receiving waters within Environmentally Sensitive Areas</td></tr><tr><td>8~~7~~. Parking Lots 5,000 square feet or more, or with 15 parking spaces or more, and potentially exposed to urban stormwater runoff</td></tr><tr><td>9~~8~~. For San Diego Region - Streets, roads, highways, and freeways which would create a new paved surface that is 5,000 square feet or greater</td></tr></table></td></tr>
</table>

DAMP Page 7-26	~~New development and significant redevelopment projects may fall into one of several categories:~~ ~~• Following redevelopment, the entire development (including the redeveloped area) would meet one of the Project Priority categories listed in **Table 7-1**. The project would be considered a Priority Project and require a Project WQMP including Treatment Control BMPs. Where the significant redevelopment results in an increase of less than fifty percent of the impervious surface of a previously existing development, and the existing development was not subject to Project WQMP requirements, the treatment requirements apply only to the addition, and not to the entire development.~~ ~~• Following redevelopment, the entire development (including the redeveloped area) would not meet one of the Project Priority categories listed in **Table 7-1**, but would require discretionary action that will include a precise plan of development, or require issuance of a non-residential plumbing permit. The project would be considered a Non-Priority Project and require a Project WQMP but would not require Treatment Control BMPs.~~ ~~• The redevelopment activity would not result in a Priority Project as listed in **Table 7-1** and would not require discretionary action that will include a precise plan of development or issuance of a non-residential plumbing permit. The project would not require a Project WQMP.~~
DAMP Page 7-27 Figure 7-3	
DAMP Page 7-27	Ministerial actions are those where little or no judgment or deliberation by a Permittee is required. Some ministerial approvals, those projects meeting one or more criteria in Table 7.1, ~~may~~ require that the applicant prepare a Project WQMP, whereas other ministerial approvals may not necessitate a WQMP. ~~For example, applications for grading or building permits for projects or activities that do not meet the requirements noted in Section 7.6.2 would not require the preparation of a Project WQMP as those projects are not expected to have the long-term potential to significantly affect stormwater quality.~~

DAMP Page 7-33	When reviewing WQMPs submitted for approval, Permittees will assess project impacts on receiving waters and potential cumulative impacts of build-out within the watershed based upon available watershed chapters of the DAMP, information learned from any CEQA documentation regarding the project, and Permittee knowledge of watershed-wide and jurisdictional problems and programs. Additionally, Permittees are to examine all identified BMPs, as a whole, to ensure that they address the pollutants/condition of concern identified within the WQMP.
DAMP Page 7-34	*Structural Source Control BMPs* Structural Source Control BMPs are low-technology practices designed to prevent pollutants from contacting stormwater runoff or to prevent discharge of contaminated runoff to the storm drainage system. Site-specific structural Source Control BMPs have been established for a number of common site features such as outdoor material storage areas, trash storage, outdoor loading/unloading docks, outdoor repair and maintenance areas, outdoor washing areas, outdoor fueling areas, and parking lots. Typical required design features include berms, covers, screens, signage, grading, sanitary sewer connections, and emergency storm drain seals. Fact sheets detailing these BMPs are presented in the Local Implementation Plan (**DAMP Section A-7).** The fact sheets include design criteria established to ensure effective implementation of the required Source Control BMPs. For future industrial facilities, the standard for structural source control BMPs is Best Available Technology (BAT)/Best Conventional Technology (BCT) and Maximum Extent Practicable (MEP) for others.
DAMP Page 7-34	*Treatment Control BMPs* Treatment Control BMPs are engineered technologies designed to remove pollutants from stormwater runoff and are required to augment Source Control and Site Design BMPs for Priority Projects to eliminate or reduce pollution from stormwater discharges to the BAT/BCT standard for future industrial facilities and MEP for all others. The type of Treatment
DAMP Page 7-35	• Sediment from areas disturbed by construction shall be retained on site using structural controls to the BAT/BCT standard ~~maximum extent practicable~~. • Stockpiles of soil shall be properly contained to eliminate or reduce sediment transport from the site to streets, drainage facilities or adjacent properties via runoff, vehicle tracking, or wind to the BAT/BCT standard. • Appropriate BMPs for construction-related materials, wastes, spills or residues shall be implemented to eliminate or reduce transport from the site to streets, drainage facilities, or adjoining properties by wind or runoff to the BAT/BCT standard. • Runoff from equipment and vehicle washing shall be contained at construction sites and must not be discharged to receiving waters or the local storm drain system ~~unless treated to reduce or remove sediment and other pollutants~~. • All construction contractor and subcontractor personnel are to be made aware of the required best management practices and good housekeeping measures for the project site and any associated construction staging areas. • At the end of each day of construction activity all construction debris and waste materials shall be collected and properly disposed in trash or recycle bins. • Construction sites shall be maintained in such a condition that a storm does not carry wastes or pollutants off the site. Discharges other than stormwater (non-stormwater discharges) are prohibited, unless they are specifically authorized under California's General Permit for Storm Water Discharges Associated with Construction Activity and ~~only where they~~ do not cause

<table>
<tr><td></td><td>or contribute to a violation of any water quality standard and are controlled through implementation of appropriate BMPs for elimination or reduction of pollutants. ~~Nonstormwater discharges must be eliminated or reduced to the extent feasible.~~</td></tr>
<tr><td>WQMP Page 7.II-1</td><td>The Model Water Quality Management Plan (Model WQMP) has been developed to address Post-construction urban runoff and stormwater pollution from all new development and Significant redevelopment projects. The goal for use of the Model WQMP is to achieve Practicable and enforceable policies ~~to minimize the effects of urbanization on site hydrology,~~ For ensuring that new development and significant redevelopment does not increase pollutant loads from a project site, or contribute to increased urban runoff flow rates or velocities ~~and pollutant loads~~to the maximum extent practicable. This goal may be achieved through site-specific project-based controls, or a combination of project-based and regionally or watershed-based controls.</td></tr>
<tr><td>WQMP Page 7.II-2</td><td>A project is a priority project if it meets any of the following criteria:
Table 7.II-1
Priority Projects Categories
<table><tr><td>1. All significant re-development projects, where significant re-development is defined as the addition of 5,000 or more square feet of impervious surface on an already developed site.</td></tr><tr><td>2~~1~~. Residential development of 10 units or more</td></tr><tr><td>3~~2~~. Commercial and industrial development greater than 100,000 square feet including parking area</td></tr><tr><td>4~~3~~. Automotive repair shops (SIC codes 5013, 5014, 5541, 7532-7534, and 7536-7539)</td></tr><tr><td>5. Restaurants where the land area of development is 5,000 square feet or more including parking area (SIC code 5812)</td></tr><tr><td>6~~5~~. For San Diego Region - Hillside development greater than 5,000 square feet
For Santa Ana Region - Hillside development on 10,000 square feet or more, which are located on Areas with known erosive soil conditions or where natural slope is twenty-five percent or more</td></tr><tr><td>7~~6~~. Impervious surface of 2,500 square feet or more located within, directly adjacent to (within 200 feet), or discharging directly to receiving waters within Environmentally Sensitive Areas</td></tr><tr><td>8~~7~~. Parking Lots 5,000 square feet or more, or with 15 parking spaces or more, and potentially exposed to urban stormwater runoff</td></tr><tr><td>9~~8~~. For San Diego Region - Streets, roads, highways, and freeways which would create a new paved surface that is 5,000 square feet or greater</td></tr></table></td></tr>
<tr><td>WQMP Page 7.II-6</td><td>Metals – Primary source of metal pollution in stormwater are typically commercially available metals and metal products. Metals of concern include cadmium, chromium, copper, lead, mercury, and zinc. Lead and chromium have been used as corrosion inhibitors in primer coatings and cooling tower systems. M~~m~~etals are also raw material components in non-metal products such as fuels, adhesives, paints, and other coatings. At low concentrations naturally occurring in soil, metals may ~~are~~ not be toxic. However, at higher concentrations, certain metals can be toxic to aquatic life. Humans can be impacted from contaminated groundwater resources, and bioaccumulation of metals in fish and shellfish. Environmental concerns, regarding the potential for release of metals to the environment, have already led to restricted metal usage in certain applications.</td></tr>
</table>

WQMP Page 7.II-7

Pesticides – Pesticides (including herbicides) are chemical compounds commonly used to control nuisance growth or prevalence of organisms. Excessive or improper application of a pesticide may result in runoff containing toxic levels of its active component.

WQMP Page 7.II-8

Further information on pollutants of concern may also be available from the CEQA analysis of the project (e.g., project-specific pollutant evaluations in Environmental Impact Reports) and this site-specific information should be used to supplement~~, or in some cases supercede,~~ the information in **Table 7.II-2**. Watershed planning documents should also be reviewed for identification of specific implementation requirements that address pollutants of concern.

WQMP Page 7.II-10

Table 7.II-2
Anticipated and Potential Pollutants Generated by Land Use Type

Priority Project Categories and/or Project Features	General Pollutant Categories	
	Heavy Metals	Organic Compounds
Commercial/Industrial Development >100,000 ft^2	P	P(~~2~~ 5)
Automotive Repair Shops	P	X(4, 5)
Parking Lots		X(4)

(2) A potential pollutant if the project includes uncovered parking areas.
(4) Including petroleum hydrocarbons.
(5) Including solvents

WQMP Page 7.II-13

A change to a priority project site's hydrologic regime would be considered a condition of concern if the change would have an ~~a significant~~ impact on downstream natural channels and habitat integrity. Because of these potential impacts, the following steps shall be followed by each priority project:

WQMP Page 7.II-13

3. Review watershed plans, drainage area master plans or other planning documents to the extent available to identify BMP ~~if any specific implementation~~ requirements for new development ~~exist~~ that address cumulative inputs from development in the watershed.~~hydrologic conditions of conern.~~

WQMP Page 7.II-14

At a minimum, Priority Projects must implement Source Control BMPs (routine non-structural and routine structural) and must implement Treatment Control BMPs (or participate in a regional or watershed program) unless a waiver is granted based on the infeasibility of all Treatment Control BMPs as discussed in Section 7.II – 6.0. BMPs must also achieve the performance standards set out in **Section 3.3.4 and must meet the standard of Best Available Technology/Best Conventional Technology (BAT/BCT) for industrial facilities and Maximum Extent Practicable (MEP) for all others**. Upon completion, for Public Agency projects will become subject to the Municipal Activities Program. Therefore it is not necessary to identify routine non-structural BMPs in the WQMP provided that such BMPs already been identified as part of the Municipal Activities Program (see **DAMP Section 5**).

WQMP Page 7.II-16	***DESIGN CONCEPT 1: MINIMIZE STORMWATER RUNOFF, MINIMIZE PROJECT'S IMPERVIOUS FOOTPRINT AND CONSERVE NATURAL AREAS*** Minimize and/or control, to the appropriate standard (BAT/BCT or MEP), the post-development peak stormwater runoff discharge rates, velocities and volumes by utilizing measures that reduce runoff rates and volumes, and increase infiltration. A reduction in the stormwater runoff from a development project using properly designed BMPs, can yield a corresponding reduction in the amount of pollutants transported from the site. The undeveloped runoff volume should be determined by considering the project site to be in a natural condition with surface vegetation in place.
WQMP Page 7.II-17	1. Minimize impervious footprint. This can be achieved in various ways, including, but not limited to increasing building density (number of stories above or below ground) and developing land use regulations seeking to limit impervious surfaces. Decreasing the project's footprint can substantially reduce the project's impacts to water quality and hydrologic conditions, provided that the undeveloped area remains open space.
WQMP Page 7.II-17	2. Conserve natural areas. This can be achieved by concentrating or clustering development on the least environmentally sensitive portions of a site while leaving the remaining land in a natural, undisturbed condition. Where available, permittees should also refer to their Multiple Species Conservation Plans or other biological regulations, as appropriate to assist in determining sensitive portions of the site. Sensitive areas can include: areas necessary to maintain the viability of wildlife corridors, occupied habitat of sensitive species and all wetlands, and coastal scrub and other upland communities. ~~Within each of the previous categories, areas containing hillsides (as defined in this Model WQMP) should be considered more sensitive than the same category without hillsides.~~
WQMP Page 7.II-17	8. Use natural drainage systems to the Maximum Extent Practicable.~~if feasible.~~
WQMP Page 7.II-19	7.II - 3.3.2 Source Control BMPs The following Source Control BMPs (routine non-structural BMPs, routine structural BMPs and BMPs for individual categories/project features) are required within all new development and significant redevelopment projects regardless of their priority, including an applicable regional or watershed program, unless they do not apply due to the project characteristics. If any of the following Source Control BMPs are ~~that would otherwise apply to the project is~~ not included in the project, an explanation of why must be included in the Project WQMP or the regional or watershed program.
WQMP Page 7.II-21	*N14 Common Area Catch Basin Inspection* For industrial/commercial developments and for developments with privately maintained drainage systems, the owner is required to have at least 80 percent of drainage facilities inspected, cleaned and maintained on an annual basis with 100 percent of the facilities included in a two-year period. Cleaning should take place just ~~[cleaned]~~ prior to the storm season, no later than October 15th each year. Drainage facilities include catch basins (storm drain inlets) detention basins, retention basins, sediment basins, open drainage channels and lift stations.

WQMP Page 7.II-24	4. Install permanent stabilization BMPs on ~~Stabilize~~ disturbed slopes as quickly as possible.
WQMP Page 7.II-24	7. Install permanent stabilization BMPs in ~~Stabilize~~ channel crossings as quickly as possible, and ensure that increases in runoff velocity and frequency caused by the project do not erode the channel.
WQMP Page 7.II-27	*Maintenance Bays* 2. Design a repair/maintenance bay drainage system to capture all wash water, leaks and spills. Provide impermeable berms, drop inlets, trench catch basins, or overflow containment structures around repair bays to prevent spilled materials and wash-down waters from entering the storm drain system. Connect drains to a sump for collection and disposal. Discharge from ~~Direct connection of~~ the repair/maintenance bays to the municipal storm drain system is prohibited. If there are no other alternatives, discharge of nonstormwater flow to the sanitary sewer may be considered, but only when allowed by the local sewering agency through permitted connection.
WQMP Page 7.II-27	*Maintenance Bays* 3. Other features which are comparable and equally effective, that prevent discharges to the municipal storm drain system ~~without appropriate permits~~.
WQMP Page 7.II-28	*Vehicle Wash Areas* ~~4. If there are no other alternatives, discharge of non-stormwater flow to the sanitary sewer may be considered only allowed by the local sewering agency through permitted connection.~~
WQMP Page 7.II-28	*Outdoor Processing Areas* 1. Cover or enclose areas that would be the sources of pollutants; or, slope the area toward a sump that will provide infiltration or evaporation with no discharge; or, if there are no other alternatives, discharge of non-stormwater flow to the sanitary sewer may be considered only when allowed by the local sewering agency through permitted connection.
WQMP Page 7.II-29	*Equipment Wash Areas* 2. ~~Be equipped with a clarifier, grease trap or other pretreatment facility, as appropriate and discharge If there are no other alternatives, discharge of non-stormwater flow to the sanitary sewer may be considered only allowed by the local sewering agency through permitted connection to a sanitary sewer, through an approved connection.~~ Design an equipment wash area drainage system to capture all wash water. Provide impermeable berms, drop inlets, trench catch basins, or overflow containment structures around equipment wash areas to prevent wash-down waters from entering the storm drain system. Connect drains to a sump for collection and disposal. Discharge from equipment wash areas to the municipal storm drain system is prohibited. If there are no other alternatives, discharge of non-stormwater flow to the sanitary sewer may be considered, but only when allowed by the local sewering agency through permitted connection.

WQMP Page 7.II-34	7.II - 3.3.4 Treatment Control BMPs Minimizing a development's detrimental effects on water quality can be most effectively achieved using a combination of Site Design, Source Control and Treatment Control BMPs. Where projects have been designed to eliminate or reduce~~,~~ to the appropriate standard (BAT/BCT or MEP), the introduction of anticipated pollutants of concern that may result in significant impacts to the receiving waters through the implementation of Site Design and Source Control stormwater BMPs, the development may still have the potential for pollutants of concern to enter the municipal storm drain system or receiving waters. Where acceptable regional or watershed management programs are available within the Downstream watershed to address the pollutants of concern from new development and Significant redevelopment, a project may participate in a regional or watershed program provided the program meets the criteria discussed in **Section 7.II - 3.3.3**. Otherwise, Priority Projects shall be designed to remove pollutants of concern from the municipal storm drain system, to the appropriate standard (BAT/BCT or MEP), through the incorporation and implementation of Treatment Control BMPs. In meeting the requirements in this section, Priority Projects shall implement a single or combination of stormwater treatment BMPs that will remove anticipated pollutants of concern, as identified by the procedure in **Section 7.II - 3.2**, in site runoff, to the appropriate standard (BAT/BCT or MEP). Treatment Control BMPs must be implemented unless a waiver is granted to the project by the Permittee, based on the infeasibility of any Treatment Control BMP (see **Section 7.II – 6.0**).
WQMP Page 7.II-34	***QUANTITY DESIGN STANDARD FOR TREATMENT CONTROL BMPs*** All Priority Projects shall design, construct and implement structural Treatment Control BMPs that meet the design standards of this section, **that is, Best Available Technology/Best Conventional Technology (BAT/BCT) for industrial facilities and Maximum Extent Practicable (MEP) for all others,** unless specifically exempted by the limited exclusions listed at the end of this section or the project is participating in an acceptable regional or watershed management program. Structural Treatment Control BMPs required by this section shall be operational prior to the use of any dependent development, and shall be located and designed in accordance with the requirements here in this section.
WQMP Page 7.II-36	[6] This volume is not a single volume to be applied to all of Orange County. The size of the 85th percentile storm event is different for various parts of the County. The Permittees may calculate the 85th percentile storm event for each of their jurisdictions using local rain data pertinent to their particular jurisdiction (the 0.8 inch standard for projects below 1,000 feet in elevation and 0.95 inch standard for projects at or above 1,000 feet in elevation, is a rough average for the County and should only be used where appropriate rain data is not available). In addition, isopluvial maps may be used to extrapolate rainfall data to areas where insufficient data exists in order to determine the volume of the local 85th percentile storm event in such areas. Where the Permittees will use isopluvial maps to determine the 85th percentile storm event in areas lacking rain data, the Permittees shall describe their method for using isopluvial maps in their Local Implementation Plan prepared as Appendix A of the 2003 DAMP.

<table>
<tr><td>WQMP Page 7.II-37</td><td>~~If during the CEQA process a more refined evaluation of the project identifies that impacts on receiving waters may not be significant and that the project will not cause further exceedance of water quality objectives related to the pollutant(s) for which the receiving water is impaired, the project shall not be required to use pollutants-specific treatment BMP(s) but may use any Treatment Control BMP or combination of stormwater Treatment Control BMPs that are designed to mitigate pollution.~~

Where toxicity is causing an impairment and the cause of that toxicity is not clearly identified, Treatment Control BMP selection should be made with the approval of Regional Board staff.</td></tr>
<tr><td>WQMP Page 7.II-37</td><td>3. Alternative stormwater Treatment Control BMPs not identified in Table 7.II-6 may be approved at the discretion of the Permittee, provided the alternative Treatment Control BMP is as effective in removal of pollutants of concern as other ~~feasible~~ BMPs listed in Table 7.II-6.</td></tr>
<tr><td>WQMP Page 7.II-38</td><td>Table 7-II-6
Treatment Control BMP Selection Matrix(1)

<table>
<tr><td rowspan="2">Pollutant of Concern</td><td colspan="3">Treatment Control BMP Categories</td></tr>
<tr><td>Detention Basins</td><td>Filtration</td><td>Hydrodynamic Separator Systems(3)</td></tr>
<tr><td>Sediment/Turbidity</td><td>~~H/M~~ L/M</td><td></td><td>H/M
(L for Turbidity)</td></tr>
<tr><td>Nutrients</td><td>~~H/M~~ L/M</td><td>~~H/M~~ L/M</td><td></td></tr>
<tr><td>Oxygen Demanding Substances</td><td>~~H/M~~ L/M</td><td></td><td></td></tr>
<tr><td>Oil & Grease</td><td>~~H/M~~ L/M</td><td></td><td></td></tr>
</table></td></tr>
<tr><td>WQMP Page 7.II-44</td><td>Waivers may only be granted for structural Treatment Control BMP and structural Treatment Control BMP sizing requirements. Priority Projects, whether or not granted a waiver, may not cause or contribute to an exceedance of water quality objectives. Pollutants in runoff from projects granted a waiver must still be reduced to the appropriate standard (BAT/BCP or MEP), through the use of Source Control and consideration of Site Design BMPs.</td></tr>
<tr><td>WQMP Page 7.II-45</td><td>Each Permittee that implements a waiver program must ~~may, at its option,~~ also develop a WQMP waiver impact fee program to require project proponents who have received waivers to transfer the savings in cost, or a proportionate share thereof, as determined by the Permittee, to a stormwater mitigation fund. Each Permittee shall notify the Regional Board when its ~~if a~~ WQMP waiver impact fee program is developed pursuant to this Model WQMP. Further, details for any WQMP waiver impact fee program should ~~may~~ be set out in the Local Implementation Plan (DAMP Appendix A), or in supplemental submissions if multiple Permittees establish a joint mitigation fund program for a region or watershed.</td></tr>
</table>

WQMP Page 7.II-48	i. The volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the local historical rainfall record ~~(0.8 inch approximate average for the Orange County area)~~ [9]; or
WQMP Page 7.II-48	[9] This volume is not a single volume to be applied to all of Orange County. The size of the 85th percentile storm event is different for various parts of the County. The Permittees are encouraged to calculate the 85th percentile storm event for each of their jurisdictions using local rain data pertinent to their particular jurisdiction (the 0.8 inch standard for projects below 1,000 feet in elevation and 0.95 inch standard for projects at or above 1,000 feet in elevation, is a rough average for the County and should only be used where appropriate rain data is not available). In addition, isopluvial maps may be used to extrapolate rainfall data to areas where insufficient data exists in order to determine the volume of the local 85th percentile storm event in such areas. Where the Permittees will use isopluvial maps to determine the 85th percentile storm event in areas lacking rain data, the Permittees shall describe their method for using isopluvial maps in the model and local WQMPs.